



Concorde Battery Corporation

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# TECHNICAL BULLETIN

**Subject: Testing RG Series Batteries with Christie RF-80K Charger/Analyzer**

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This technical bulletin provides instructions for using the Christie RF-80K Charger/Analyzer to test Concorde RG® Series Aircraft Batteries.

## A. Constant Potential Charge Procedure:

1. Make sure AC power is OFF.
2. Connect battery to RF-80K.
3. Set MODE switch to CHARGE.
4. Set charge method switch to CONSTANT POTENTIAL 6 CELLS for 12 volt batteries or CONSTANT POTENTIAL 12 CELLS for 24 volt batteries.
5. Set CHARGE TIME to 4:00 hours.
6. Set BATTERY TYPE switch to A.
7. Set DISCHARGE CYCLE switch to SHORT.
8. Adjust CHARGE CURRENT knob fully counter-clockwise (zero current position).
9. Set meter switch to AMPS.
10. Turn AC POWER to ON position.
11. Press CYCLE RESET button to begin charging.
12. Slowly adjust CHARGE CURRENT knob clockwise until the current equals 65A or until the knob will no longer rotate. NOTE: Do not exceed 65A or else the RF-80K may get damaged.
13. Terminate charging when the charging current remains constant (within 10%) for 3 consecutive hourly readings or until the 4 hour timer elapses, whichever occurs first.

## B. Conditioning Charge Procedure:

1. Make sure AC power is OFF.
2. Connect battery to RF-80K.
3. Set MODE switch to CHARGE.
4. Set charge method switch to CONSTANT CURRENT.
5. Set CHARGE TIME to 16:00 hours.
6. Set BATTERY TYPE switch to A.
7. Set DISCHARGE CYCLE switch to SHORT.
8. Adjust CHARGE CURRENT knob fully counter-clockwise (zero current position).
9. Set meter switch to AMPS.
10. Turn AC POWER to ON position.
11. Press CYCLE RESET button.
12. Adjust CHARGE CURRENT to 10% of the one hour rate of the battery (e.g., 4.2A for a 42AH battery).
13. Terminate charging when the 16 hour timer elapses, or when the charging voltage remains above 31 volts (15.5 volts for 12 volt batteries) for 4 hours, whichever occurs first.



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**CAUTION:** Do not use the Reflex mode when charging RG® Series Batteries. The Reflex mode may cause permanent damage to the battery.

### C. Capacity Test Procedure:

NOTE: Before using the RF-80K for capacity testing, verify the end of discharge voltage settings have been correctly calibrated in accordance with Christie Service Bulletin SB040907-1 dated 04/09/2007. The correct settings are 10V for 12 volt lead-acid batteries and 20V for 24 volt lead-acid batteries.

1. Make sure AC power is OFF.
2. Connect battery to RF-80K.
3. Set MODE switch to DISCHARGE.
4. Set charge method switch to CONSTANT POTENTIAL 6 CELLS for 12 volt batteries or CONSTANT POTENTIAL 12 CELLS for 24 volt batteries.
5. Set CHARGE TIME to 00:00 hours.
6. Set DISCHARGE TIME to 02:00 hours.
7. Set BATTERY TYPE switch to A.
8. Set DISCHARGE CYCLE switch to SHORT.
9. Adjust CHARGE CURRENT knob fully counter-clockwise (zero current position).
10. Adjust DISCHARGE CURRENT knob fully counter-clockwise (zero current position).
11. Set meter switch to AMPS.
12. Turn AC POWER to ON position.
13. Press CYCLE RESET button.
14. Adjust DISCHARGE CURRENT to the one hour rate (1C rate) of the battery.
15. The discharge will automatically stop when the endpoint voltage is reached (10V for 12 volt batteries and 20V for 24 volt batteries).
16. Record the discharge time in minutes. The percent capacity is calculated by dividing the discharge time in minutes by 60 and multiplying by 100. For example, if the discharge time was 51 minutes, the percent capacity is  $51/60 \times 100 = 85\%$ .
17. After discharging, charge the battery as soon as possible. Refer to the applicable CMM/ICA to determine which charge method should be used.